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10/710,753

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Dinesh R. Patel

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EXAMINER

HARCOURT, BRAD

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/710,753
Filing Date: July 30, 2004
Appellant(s): PATEL, DINESH R.

Robert A. Van Someren
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 4/18/2008 appealing from the Office action mailed 12/18/2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,668,936	Williamson, Jr. et al.	12-2003
2002/0023746	Ringgenberg et al.	2/2002
5,862,865	Murray et al.	1-1999

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 7, and 19-23 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Williamson (US Patent No. 6,668,936).

Williamson discloses a hydraulic control system comprising four valve assemblies 12, 14, 16 and 18; a hydraulic control module 32; and hydraulic fluid line 36 which actuates valves 12, 14, 16 and 18 by receiving fluid from hydraulic control module 32. All of the assemblies act as flow valves since they each correspond to a respective production zone and each valve also prevents cross flow between its respective

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formation and any other formations. In reference to claims 4 and 5, Williamson discloses that the system could be “intersecting any number of zones” (col. 3, line 24) and thereby could have any number of flow valves all of which are actuated by the hydraulic control device. It is also disclosed that this system can be used to “regulate a rate of production from a zone, to regulate a rate of fluid injection into a zone, etc. (col. 8, lines 27-29). In reference to claims 2 and 20, it is understood that the flow and cross flow valves both are multi position valves. In reference to claims 3, 21 and 23, it is inherent that if a hydraulic control line actuated a valve, the actuating step would be a pressure cycle and the valves would be actuated when the hydraulic pressure rose above a certain pressure.

Claim 14 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Ringgenberg et al. (US Patent Application Publication No. 2002/0023746).

Ringgenberg discloses a system 20 for preventing cross-flow in a wellbore comprising first multi-position flow valve 30 that “is used to selectively permit fluid communication between the wellbore 12 [from formation 82] and the interior of fluid assembly 20” (par. 0025); second multi-position flow valve 104 controlling flow from formation 84 into assembly 20; valve 40 preventing flow between the two formations 82 and 84.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6 and 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williamson (US Patent No. 6,668,936) in view of Murray (US Patent No. 5,862,865).

Williamson discloses most of the limitations of the claims, but does not disclose using a flapper valve and sleeve valves together. Murray discloses a gas lift system comprising a gas lift system comprising a flapper valve 16 and a sleeve valve 30 that are controlled by "existing control line connections" (col. 1, line 53). Said flapper comprises a flapper 18 which is actuated by a piston 26 that receives pressure from pressure chamber 28 and is biased closed by spring 24. Sleeve valve 30 comprises a sleeve 32, port 34 and a piston 40 that receives pressure from pressure conduit 42. In reference to claims 11 and 12, the flapper is biased closed by spring 24 and would only open when enough hydraulic pressure is exerted on piston 26. In reference to claim 14, the flapper valve disclosed by Murray would act as a cross-flow prevention valve and would prevent cross-flow between two multi-position valves. It would have been obvious to a person having ordinary skill in the art at the time of the invention to include a flapper valve and control it by the same hydraulic line that controls the other valves of Williamson in view of Murray to better prevent cross-flow between two adjacent formations.

Claims 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ringgenberg et al. (US Patent Application Publication No. 2002/0023746) in view of Williamson (US Patent No. 6,668,936) and Murray (US Patent No. 5,862,865).

Ringgenberg discloses all of the limitations of the above claims with the exception of actuating multiple valves on the same system with the same hydraulic control line, and using both flapper and sleeve valves together in the same system. Williamson, as described above, discloses the use of multiple valves, including flow and cross flow valves, actuated by the same hydraulic control line. It would have been obvious to a person having ordinary skill in the art at the time of the invention to actuate a number of valves for any purpose with one hydraulic line on the system of Ringgenberg in view of Williamson to reduce the complexity of the system and reduce the need for multiple hydraulic lines to be placed downhole.

Additionally, Murray, as described above, discloses the use of flapper and sleeve valves together. It would have been obvious to a person having ordinary skill in the art at the time of the invention to use sleeve valves as flow valves restricting flow from a formation on the system of Ringgenberg in view of Murray to provide a valve which does not interfere with longitudinal flow through the flow passage of the tubing. It would have been obvious to a person having ordinary skill in the art at the time of the invention to include a flapper valve as a cross flow prevention valve on the system of Ringgenberg in view of Murray to provide a valve that easily prevents flow through the tubing string.

(10) Response to Argument

Appellant argues, with respect to claims 1 and 19, that Williamson et al. (US Patent No. 6,668,936) does not disclose a cross flow prevention valve or, in

combination, a flow valve and a cross flow prevention valve that are actuated with a control line.

Williamson discloses a first valve 18 associated with formation 30 and a number of other valves 12, 14 and 16 that selectively prevent cross flow between formation 30 and formations 24, 26 and 28, respectively. They are not explicitly disclosed as for use in preventing cross flow between formations, but do prevent cross flow when they are closed. Additionally, Williamson discloses that the valves 12, 14, 16 and 18 are actuated by "one or more control lines 36, or other types of flowpaths, extending to the tool assemblies 12, 14, 16, 18" (col. 3, lines 36-37). While some embodiments do include multiple control lines as argued by the appellant, Williamson does clearly disclose one embodiment of one control line 36 being used to actuate a flow valve 18 and a cross flow valve 12, 14 or 16.

Appellant argues, with respect to claim 14, that Ringgenberg et al. (US Patent Application Publication No. 2002/0023746) fails to disclose a second multi-position flow valve controlling flow from an active formation. More specifically, appellant argues that valve 104 is not a multi-position flow valve that controls flow out of formation 84. While it is true that the valve 104 is a check valve, the valve 104 does in fact control flow out of the formation (in that it prevents it completely) and is a multi-position valve as it has open and closed positions. Additionally, formation 84 is considered to be active as there is fluid flowing into the formation (par. 0039).

Appellant's arguments to claims 2-13, 15-18 and 20-23 are directed to the same issues addressed above.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Brad Harcourt

/Jennifer H Gay/
Supervisory Patent Examiner,
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Conferees:

Jennifer Gay /jhg/

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